



Fundamental Potentials, Challenges and Opportunities for Ecotourism Development in Lake Hayq, Ethiopia

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Abstract

The main objective of this study was to assess the fundamental potential, challenges and opportunities of developing ecotourism in Lake Hayq (ሉጎ ሀይቅ) in Ethiopia. To this end, the researchers integrated both qualitative and quantitative research approaches with a descriptive design. Participants of the study were members of local communities and those who are involved in the tourism business, community leaders, and government officials. By applying both probability and non-probability sampling techniques, 131 respondents were selected through purposive sampling and simple random sampling techniques. A questionnaire, interview, observation and desk research were used as instruments of data collection. Data were analyzed using content analysis for qualitative data while SPSS version 22 was used for quantitative and expressed in terms of frequency, percentage, mean and standard deviation. Findings showed that Lake Hayq and its surroundings have a fundamental potential and opportunities to be developed making it an ecotourism destination. From a product perspective, the spectacular scenery, the lake and its marine area, excellent birdlife viewing opportunities, diversified recreational opportunities, and local cultures are interesting potentials for ecotourism development. With supportive local institutions, ecotourism development policies and conducive weather conditions as main opportunities, much is possible. Developing ecotourism can engage a broad section of human population and it is the most promising strategy to reduce livelihood and environmental problems in the area. However, agricultural encroachment, unsustainable resource use patterns, lack of skilled manpower, lack of awareness, infrastructural challenges, poor cooperation among stakeholders, lack of promotion and marketing are amongst the major challenges in Lake Haya for ecotourism development. It has become essential to develop ecotourism to protect environmental quality of the area and to keep the benefits in the hands of local people through bringing due attention to all relevant stakeholders the need to focus on values in developing ecotourism in Lake Hayq and its surroundings.

Keywords: Lake Hayq, Potentials, Challenges, Opportunities, Ecotourism Development, Ethiopia



Introduction

Tourism has become a rapidly growing market and is showing remarkable growth in the current global scenario (UNWTO, 2010). It makes an enormous contribution to local economies, job creation and sustainable development that can play a leading role in transforming the world towards the desired green economy (Beza & Berhan, 2017). Specifically, ecotourism offers a great opportunity for Africa whereby African countries can base their tourism development on exploiting their natural assets on condition that the rules of sustainable development basis ecotourism, especially involving communities living within and adjacent to the assets (Beza & Berhan, 2017). Ecotourism has become an important activity in natural areas around the world due to it providing opportunities for visitors to learn about values of conserving biodiversity and local culture as well as generating income for local communities living around ecotourism sites and income for protected area conservation (Drumm & Moore, 2002).

The concept of ecotourism is not a new one as it originally appeared in the late 1960s and early 1970s (Nelson, 1994). The idea of ecotourism was primarily generated from the concern of numerous researchers in figuring out inappropriate use of natural resources by visitors in different natural destinations. Since then, development approaches were taken into consideration to minimize the adverse effects on local environment as well as enhance the cultural unity in local habitants. Ecotourism is considered as successful when it reduces environmental impacts of tourism pace while benefits for local community culturally and economically as well as foster environmental education (Tran & Do, 2011). A participatory development approach would be preferable so as to achieve sustainable ecotourism (Simane, Zaitchik, & Ozdogan, 2013). This can facilitate implementation of ecotourism development by creating better opportunities for local people so as to allow them to gain a relatively larger and more balanced benefit from tourism development.

Over 80% of Ethiopia's population is rurally based and has agriculturally based livelihoods and extremely low levels of income derived mainly from farming (Mann, 2006). But it has a great deal of potential for ecotourism development which may be attributed to various protected areas, mountains, lakes, wildlife reserves and many other sites of value for tourists. Development of ecotourism has also received much attention by developing countries and economically impoverished regions around the world. Because it provides the tourist with quality natural and cultural experiences, generates funds and support for conservation and environmental protection efforts, minimal environmental impact and sustainable use of natural environment, provides long-term socioeconomic benefits to local communities and stimulates local community development (Fennel, 1999).

Besides, ecotourism development in Ethiopia is receiving increasing interest and attention due to the fact that Ethiopia has a unique biodiversity, spectacular topographic features and rich cultural resources. Ethiopia's protected areas, which includes national parks, lakes, game reserves, wildlife sanctuaries and other controlled hunting grounds, covers about 14% of the country are most suitable for ecotourism development (Alemayehu, 2011).

Despite the fact that most protected areas are compatible for ecotourism development, they are facing a number of challenges related with the idea that the local community inhabited the area before, and it signifies multifaceted challenges of tourism development activity due to extremely less regard for local community involvement. The majority of conservation problems were attributed to Ethiopia's adoption and implementation of an exclusionary protected area policy and to the causes and consequences of its prolonged engagement in two particular conflicts (Jacobs



& Schloeder, 2001). The major purposes of the study were to assess the fundamental potential, challenges and opportunities of ecotourism development as solutions and in a way to manage the destruction of resources such as water levels of the lake which have been decreasing due to irrigation or agricultural encroachment, and general over consumption of resources.

Statement of the Problem

Ecotourism has been given more consideration since the World Ecotourism Summit in 2002 due to the expectation of using it as a tool for ensuring sustainable conservation of destination areas, satisfying the enjoyment of tourists, benefiting the destination community and contributes to poverty reduction (Atlabachew, 2004). Ecotourism differs from nature based tourism in that nature based tourism is just travel to natural places but ecotourism provides local benefits: environmentally, culturally and economically (Fennel, 1999). For instance, while a nature based tourist may just go for bird watching, an ecotourist goes bird watching with local guide, and stays in a locally operated ecolodge, and contribute to the local economy (Fennel, 1999). Aside from the employment generated in formal sectors (hotels, transport, tour operators), there are few opportunities for poor Ethiopians to be involved in tourism in terms of decision making and benefit sharing (Ashley & Garland, 1994).

The Amhara Culture and Tourism Bureau Report (2010) states that the region could not get a satisfactory contribution from industry (Kidanemariam, 2016). Ethiopia is endowed with diverse natural resources with a great potential to attract visitors, ranging from both domestic and foreign visitors, and also from day trippers to overnight visitors (Sintayehu, 2015). But abundant resources are not yet fully utilized and tourism is still at its infancy. Similarly, benefits of the community share from tourism in Lake Hayq is too small and participation of the local community in decision making related to tourism development has been insignificant. Like other parts of the country, participation of the local community is not to the expected levels (Teklie, 2011). Lake Hayq is home to diverse cultural and natural ecotourism potentials such as Hayq Eyesus Moa, St Istifanos and Bete Denagil communal monastery (pioneer of Ethiopian Orthodox Church history), church museum, plant and animal species, spectacular landscape, and annual religious cultural festivity of St Istifanos Monastery, and the traditional conflict resolution system are amongst the potential tourism attractors.

However, the lake faces many problems like agricultural pressure that resulted the water levels of the lake and fish production decreasing, permanent settlement and a great number of livestock that are displaced (Seid, 2016). As ecotourism is among the rapidly growing segments with dual goals: ecosystem conservation and economic as well as socio-culturally significant, it is found to be the best remedy to minimize destruction of tourism resources or to avoid rural poverty and unemployment by conserving and preserving ecosystem (Alemayehu, 2011). It is in response to this fact, the researchers conducted a research on Lake Hayq which is considered to be a strategic site for the development of ecotourism and it requires an extensive in-depth research undertaking.

Some researchers have addressed issues related to community based ecotourism development in different parts of Ethiopia. They addressed the issues related to problems, prospects and practices pertaining to community based ecotourism development as a tool for sustainable development. However, studies related to the potential, challenges and opportunities of ecotourism development especially in water bodies like Lake Hayq remained untouched due the focus given to the 'honey-pot' areas or well-known tourist destinations of Ethiopia.

To fill this gap, this study has addressed fundamental potentials, challenges and opportunities of ecotourism development in Lake Hayq. Therefore, as empirical studies about ecotourism development potentials, challenges and opportunities have been overlooked in Lake Hayq, this study was conducted to identify the fundamental potentials, challenges and opportunities for ecotourism development.

Research Methodology

Study Area Description

This study was conducted in Tehuledere woreda at Hayq town. Tehuledere woreda is one of the 21 administrative woredas found in South Wollo Zone. Located at Eastern edge of Ethiopian highlands in South Wollo Zone, Tehuledere is bordered by Dessie Zuria in the South, Kutaber in the Southwest, Mille river in the Northwest and the North, WereBabo in the Northeast, and Kalu in the Southeast. Hayq, capital of the woreda was established in 1935 and located at 430km from Addis Ababa, and 30km from Dessie.

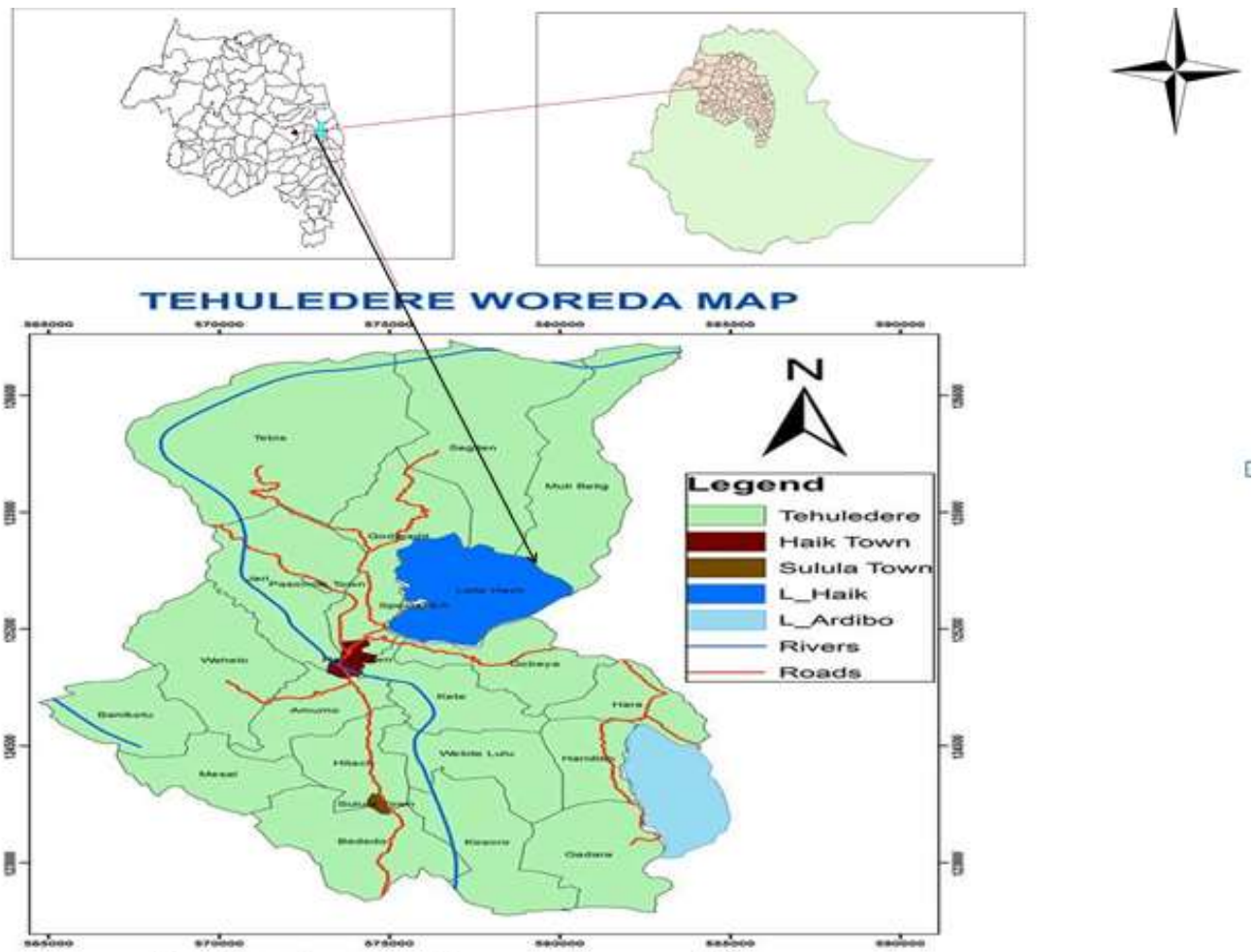


Figure 1: Map of study areas

The altitude of Tehuledere woreda ranges from 500m above sea level and the topography is mountainous and rugged plateau to the Western and Southern part and somehow labeled plain



land to the Eastern part. Hydrology of this woreda includes two lakes: Lake Hayq, which is the main focus area for this study, and Ardibbo which lies to the South of Hayq, defining part of the border with Kalu.

Lake Hayq is a freshwater lake found outside the Great East African Rift Valley with 11° 18' 0" N and 39° 40' 60" E coordinates. It is 6.7km long and 6km wide with a surface area of 23km². It has a maximum depth of 88m and is at an elevation of 2,030m above sea level. It is among highland lakes of Ethiopia found outside the Great East African Rift Valley. The lake totally lies within Hayq town administration. Special features on the lake are Debre Egziabher and St Istifanos monastery. The woreda possess moderate climate condition with long sunshine months (Teklie, 2011).

According to a local legend, the lake was created to avenge a pregnant woman who was wronged by a princess. God was greatly angered by this injustice and in his wrath turned all of the land surrounding the woman (except the ground she was sitting on) into water forming a lake, destroying the princess along with her friends and family in the process. Where the pregnant woman was sitting became an island (now a peninsula), where Istifanos Monastery was founded in the middle of the 13th century by Iyesus Mo's. The first known European to view the lake was Francisco Alvarez who passed nearby on 21 September, 1520. He mentioned that the lake had hippopotamuses and catfish, and the land around it had plantations of lemons, oranges and citrons, but currently there are no more hippopotamuses (Seid, 2016).

There is diversified economic engagement among population to win their livelihood where 96.5% of the total population depends on subsistence agriculture for their livelihood. Crop production, non-farm activities like the production and selling of handcrafts and livestock production are major activities in the entire woreda. In Hayq town, trade is also major economic activity that supports many people. Weather conditions are suitable for agricultural activities and 21.537 hectare land is studied and proofed to be comfortable for cultivation (Teklie, 2011). Lake Ardibo and Lake Hayq carries many fish species and traditional fishery so far supports many youth especially for those who have no land.

Hayq town is located on the main road that extends from Addis Ababa to Woldia and Mekele which was recently reconstructed as an asphalt concrete road. Thus, there is no problem in getting access to Hayq via road transport. The beauty of the mountainous topography on both sides of the road can make individuals prefer taking a drive to flying, if possible.

Research Design

The research strategy chosen for this study was a descriptive design to identify and describe significant conditions and relationship between important variables such as potentials, challenges and opportunities through cross sectional survey design. This study employed both quantitative and qualitative approaches to collect information through different data instruments to explore and describe existing potentials, challenges and opportunities of ecotourism development. Integrating both quantitative and qualitative data using distinct designs that may involve philosophical imaginations and theoretical frameworks and the core assumption is that the combinations of quantitative and qualitative approaches provide a more complete understanding of a research problem than using either approach alone (Creswell, 2014).



Population and Sampling

Subjects of this study were Hayq town administration mayor office, tourism experts, government communication affairs office experts, Tehuledere woreda culture and tourism experts, Saint Istifanos monastery leaders, Hayq town preparatory school (know your country club), local communities, tourism business such as fishermen and boat association, lodge, hotel, restaurant, cafe owners/managers and ecolodge employees. Population sizes of all enterprises which in tourism business are 28, local communities those who employed in ecolodge around the lake are 25, member of know your country club 26, Lake Hayq boat association or those who involve in transport services are 37, local communities those who involve in fishermen association are 48, tourism and government communication affairs office experts 16. Therefore, the total target population of sampling frame this study was 180.

Sample Size Determination

Target sample frame was 180 to be determined sample size using a formula adapted from Israel (1992):

$n = N / (1 + N(e)^2)$, Where n = sample size, N = total population, e = precision level

$n = 180 / (1 + 180(0.05)^2) = 180 / (1 + 180(0.0025)) = 180 / 1.45 = 124.137931 \rightarrow \underline{124}$

Due to heterogeneous nature of target population, researchers selected proportionate stratified sampling techniques to determine the sample size of each category of respondent. According to Kothari (2004), a stratified sampling technique is best if a population from which a sample is to be drawn does not constitute a homogeneous group. Stratified sampling technique is generally applied in order to obtain a representative sample. Stratified sampling population is divided into several sub-populations that are individually more homogeneous than total population (different sub-populations are called strata) and then select items from each stratum to constitute a sample. Due to this sample groups are different which includes owners/managers of tourism industry, tourism club members, boat association, fishermen association, communities those who employed in ecolodge, tourism and communication office experts. In line with sample size distributed and calculated in each stratum using Kothari (2004) sampling formula:

$n_1 = nN_1/N$, Where, n_1 = strata1, N_1 = total number of population and N = total target population.

- Owners/managers of tourism industry $n_1 = (28 \times 124) / 180 = 19.28 \rightarrow 19$
- Hayq preparatory school/know your country $n_2 = (26 \times 124) / 180 = 17.91 \rightarrow 18$
- Lake Hayq boat association $n_3 = (37 \times 124) / 180 = 25.48 \rightarrow 26$
- Fishermen association strata $n_4 = (48 \times 124) / 180 = 33.06 \rightarrow 33$
- Local communities employed in ecolodge strata $n_5 = (25 \times 124) / 180 = 17.22 \rightarrow 17$
- Tourism and communication office experts strata $n_6 = (16 \times 124) / 180 = 11.02 \rightarrow 11$

Respondent from every subgroup were then selected for inclusion in the sample size using simple random sampling to ensure that the sampling units had equal chance in the study.

Table 1: Sample Size

No	Strata	Population (Frequency)	Sample Size
1	Owners of tourism industry	28	19
2	Tourism club members	26	18
3	Boat association	37	26



4	Fishermen association	48	33
5	Communities employed in ecolodge	25	17
6	Experts	16	11
	Total	180	124

Data Collection Instruments

This study was conducted in Lake Hayq and researchers used purposive sampling for interview and simple random sampling for questionnaire. Main sources of primary data were questionnaires, in depth interviews, desk research, and field observations. Principal sources of secondary data for this research were books, academic journals, websites, convention data, manuals, bulletins, newspapers, reports, and popular articles.

Semi-Structured Interviews

Face-to-face interviews were conducted with purposively selected stakeholders who have extensive knowledge, experience, expertise, and involvement with tourism sector: Hayq town culture and tourism office, government communication affairs office, South Wollo zone culture and tourism, Tehuledere woreda culture and tourism office, community representatives. Interviews were guided by a set of interview questions which were prepared both in English and Amharic languages that consisted of introductory questions to identify background information of interviewees followed by questions designed to identify and explore key topics and issues that are central to potentials, challenges and opportunities for ecotourism development.

Table 2: Interviewees

No	Key informant stakeholders	Interviewee	Total
1	Hayq town administration culture and tourism department	head 1	1
2	Tehuledere woreda culture and tourism office	head 1	1
3	South wollo zone culture and tourism office	Department 1	1
4	Hayq town government communication affaires office	Head 1	1
5	Community representatives (elders, religious leaders)	Government 3	3
		Total	7

Questionnaire Survey

To allow a meaningful comparison of responses and to complement and verify information obtained from semi-structured interviews, questionnaire survey was also conducted. Five point Likert Scale questionnaires were distributed for tourism and government communication affairs office experts, managers/owners those who are involve in tourism business such as ecolodge/hotel, accommodation, fishermen and boat association, tourism club members, local communities employed in ecolodges.

Open- ended questions were incorporated to give a freedom to respondents to forward their opinions regarding the level of awareness of host communities for potentials, challenges and opportunities of ecotourism development. Questionnaires were prepared both in English and Amharic languages. Two enumerators were assigned and have given explanation on how they should request respondents for their consent to fill questionnaires. Explanation included interpersonal skills like politeness, communication skills and others, that are helpful to win the goodwill of respondents. Enumerators were also trained how to fill out questionnaires in case they



faced illiterate respondents. Researchers distributed 124 questionnaires to collect primary data and 120 were returned back with complete answers but the remaining 4 questionnaires were rejected due to respondents not filling the questionnaires out properly.

Field Observation

This study also employed personal observation of potentials, challenges and opportunities of ecotourism development in the study area. Researchers were observed the study area with the intention of physically observing what is going on in the study area in relation to ecotourism development, using observation checklists.

Data Analysis Plan

Completely filled questionnaires were coded and quantitative data was analyzed using SPSS version 22 and results depicted using tabulation. Respondents were asked to rate their quantitative survey responses on a 5- point Likert scale where 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree. Analysis of such responses (quantitative data) from the survey by SPSS version 22 produced frequencies, percentages and mean of responses on each aspect whilst qualitative data obtained through interview and field visit were analyzed using content and framework analysis.

Validity and Reliability

To make data gathered from local community members and experts valid, information found from informants and households was interpreted and filled out accurately. Quantitative data was reliable as researchers entered data into SPSS version 22 and checked reliability by Cronbach's Alpha reliability test indicated that 0.862, which is acceptable or highly reliability. Qualitative data gathered from local community leaders, government communication affairs office head, zone, woreda culture and tourism office heads checked reliability by list of informant, recording data and supported with secondary data.

Table 3: Cronbach's Alpha reliability test results

No	Challenges, opportunities and potentials of ecotourism development	Cronbachs Alpha
1	Opportunities of ecotourism development	.874
2	Potentials of ecotourism development	.869
3	Challenges of ecotourism development	.843
	Total	.862

Results and Discussion

Profile of Respondents

The majority (87%) of respondents were male while 33% were female respondents, (19.7%) belonging to age category between 18-28, 20.5%, 45.1%, 11.5%, and 1.6% respectively were between 29-39, 40-50, 51-61 years. This implies that majority of the respondents were within the adulthood age category that can play a great role in the decision making about how to develop

ecotourism both directly participating in the process and putting their imputes on all needed aspects. In addition, it is easy to convince the working class to do or not to do anything due to their ability to understand things more easily. Knowledge in general and environment related knowledge in particular, is considered as prerequisite to environmental concern (Harris, Griffin, & Williams, 2002).

As public becomes increasingly aware of environmental protection, studies have found the crucial value of environmental knowledge. Community leaders environmental knowledge positively correlates with their attitudes towards conservation (Harris et al., 2002). Despite respondents not being trained in the area of environment, directly or indirectly they have exposure to such kinds of knowledge. Be it environmental or other, knowledge positively affects attitudes towards environmental actions (Harris et al., 2002).

Table 4: Demographic characteristics of respondents

Demographic Variables		F	%
Sex	Male	87	72.0
	Female	33	28.0
	Total	120	100.0
Age	18-28	24	19.7
	29-39	25	20.5
	40-50	55	45.1
	51-61	14	11.5
	62 and above	2	3.2
	Total	120	100.0
Marital status	Single	34	27.9
	Married	83	68.0
	Divorced	3	4.1
	Total	120	100.0
Level of education	No schooling/illiterate	50	41.7
	1-8	14	11.7
	9-12	29	24.2
	Diploma	15	12.5
	degree and above	7	5.8
	church education	5	4.2
	Total	120	100.0
Occupation	Government employed	14	13.1
	Private	20	16.4
	self employed	54	44.3
	Student	32	27.4
	Total	120	100.0

F= frequency, %= percentage

As shown from table 4 above, majority of respondents (68%) were married, divorced (4.1%) while single (27.9%). Hence, married people may be more concern about their environment sustainability due to that they are more settled their life in the area. There is a great variation in educational background, 41.7% of respondents have a low level of education (no schooling) and only 11.7% and 24.2% of respondents were 1-8/primary/ and 9-12/secondary/school, 12.5% diploma, 5.8% degree and above as well as 4.2% participants attended church education. Low level of education/no schooling/ respondents were high (41.7%) that may have adverse influence on sustainable ecotourism development.

Educated respondents in ecotourism sites were less in number, but they participated in the areas of tourism and related activities. Indigenous communities have a chance to benefit all the way

through representation of their child to create a well-informed person through their own family members to understand tourism related issues. Based on sample survey result, 41.7% accounts 50 respondents were uneducated; for this reason development of those ecotourism sites may face some difficulties due to higher number of illiteracy rate found on the study sites.

Ecotourism Opportunities in Lake Hayq

In order to understand the extent of local community opportunities of ecotourism, it is perhaps important to assess how these communities benefit in the areas of ecotourism potential resources. To determine opportunities of ecotourism, a selected target population survey questionnaire was devised. Respondents were asked on a 5- point Likert Scale to show their agreement levels. Mean scores or results of each variable were presented in table 5 below. Generally, local people viewed each of these ways as appropriate for involving them in ecotourism development. Mean scores for all variables were above 4 that confirmed strong agreement with these statements.

Table 5: Opportunities of ecotourism development in Lake Hayq

Variables	F & %	SD	D	N	A	SA	Total	Mean
Local people are encouraged to work and invest in ecotourism	F	0	12	36	52	22	120	120
	%	0	10.0	30.0	43.3	16.7	100.0	3.67
Ecotourism has employment opportunities for local people	F	0	1	13	48	58	120	120
	%	0	0.8	10.8	40.0	48.3	100.0	4.36
Ecotourism improves general quality of life for local people	F	0	4	32	37	47	120	120
	%	0	3.3	26.7	30.8	39.2	100.0	4.06
Lake Hayq is accessible to other attractions in the area	F	2	6	16	44	52	120	120
	%	1.7	5.0	13.3	36.7	43.3	100.0	4.15
Ecotourism generates income for local communities	F	2	2	8	32	76	120	120
	%	1.7	1.7	6.7	26.7	63.3	100.0	4.48
There are no seasonal factors to access in Lake Hayq	F	10	9	14	39	48	120	120
	%	8.3	7.5	11.7	32.5	40.0	100.0	3.88
Availability of many natural and cultural ecotourism potentials	F	0	6	7	52	55	120	120
	%	0	5.0	5.8	43.3	45.8	100.0	4.30
Availability of local associations like fishermen and boat	F	0	6	12	48	54	120	120
	%	0	5.0	10.0	40.0	45.0	100.0	4.25
Good environmental policy	F	0	15	11	44	50	120	120
	%		12.5	9.7	36.7	41.7	100.0	4.08
Awareness of local community about ecotourism is high	F	1	6	9	48	56	120	120
	%	.8	5.0	7.5	40.0	46.7	100.0	4.27

F=frequency, %=percentage, SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

Local Communities Encouragement in Ecotourism

Table 5 above, depicted that respondents had a tendency to support the idea that they are encouraged actively in ecotourism to work and invest in the study area. In fact, this was the most popularly accepted idea and appropriate way to benefit local community from ecotourism development in Hayq and its surroundings. However, based on standard deviation scores, it is surprising that responses for this statement were more widely dispersed from the mean suggesting that there were relatively more respondents who strongly opposed the idea and who strongly supported it.



Employment Opportunity

Ecotourism offers employment opportunities for local communities (mean=4.36), which implies that local communities in Hayq were aware of opportunities of ecotourism development. Analysis of the interviews with key informants supported the notion and tourism experts suggested that many members of the community have been employed by tourism industries (ecolodge, hotel, restaurant, boat driver, guide, etc.) whereas others have their own vegetable and cereal products to be sold to ecotourists. Based on mean and standard deviation scores, it appears that there was a strong agreement that ecotourism generates income. This statement gained the first highest scores (mean=4.48) and may suggest local people can understand and appreciate the contribution of ecotourism as a source of income. These matched with personal observations by researchers - that much ecotourism generating income in the study area such as Erikum and Logo Hayq Lodge entrance fees and employees, boating fees, Roman and Fasika Hotel employees, guide, farming and fishing have become the main livelihoods for local communities.

In addition, interviewees revealed that several members of local communities were formally or informally employed in ecotourism tourism. For example, some members of local communities were employed by ecotourism establishments such as boat renting and hotels whereas others have their own shops for selling different cultural and artistic products. Local communities have also some positive views of direct opportunities of ecotourism that can encourage cultural activities. This matched with researchers' observations and information obtained from interviewees that many ecotourism activities in the study area such as selling of souvenirs, paintings, local tour guides, cultural goods and services were in progress.

Local Communities Awareness

Table 5 above, indicated that there was strong agreement (mean=4.27) about the level of awareness of local community on ecotourism. This implies that local people understand and appreciate the possible contribution of tourism as a means of generating income and employment opportunity. The level of awareness of local community was revealed as local communities were aware of the contributions of ecotourism as a means of income generation, preserving local cultures and promoting cross cultural exchanges. They also showed that local communities acknowledged employment opportunities.

According to interview discussants, most local people were not aware of either ecotourism or community-based tourism that poses a difficult to develop such alternative forms of as most people are uneducated. Even most interviewed tourism officials were not aware of these terms and they consider community-based ecotourism as a nature-based tourism practice where biodiversity conservation is prime concern. They expect that visitors will act in an environmentally friendly manner and respect local communities due to the fact that most of them have awareness about ecotourism or a previous professional background in ecotourism.

In addition, all respondents of the questionnaire survey were not familiar with ecotourism. One of the major causes for the lack of awareness would be the lack of trained manpower in the area of ecotourism and community- based ecotourism. Limited awareness resulted in a knowledge gap to increase interest towards ecotourism development and a greater level of awareness among locals and officials can be another challenge for ecotourism development. Almost all the discussants had positive attitudes towards the development of ecotourism in Lake Hayq. The Key informant interviewee working at South Wollo zone culture and tourism office, signified the values



of developing ecotourism and noted this is the only and best option to redeem the Lake from further deterioration.

Environmental Policy of Ethiopia

The overall policy goal is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs (Bekele, 2008). Environmental policy in Ethiopia is people friendly as it emphasizes the participation of the local communities in the protection of the environment and in the management of its resources. In case environmental projects interfere with the livelihoods of local communities, it gives them not only the right to full consultation but also the right to participate and influence the decision making process.

It anticipates abuses that local communities may face in the name of participation when it stipulates the necessity to develop necessary legislation, training and financial support to empower local communities so that they may acquire the ability to prevent the manipulated imposition of external decisions in the name of participation, and to ensure genuine grassroots decisions in resources and environmental management (EPE 1997:19). It recognizes the necessity of integrating people's knowledge and their organizational capacity and scientific research in complementary ways to each other and thus needs to be sanctioned with formal and legal structures that ensure participation of local communities in environmental management. It emphasizes the real empowerment of local communities not the imposition brought on to them (Berhe, 2013).

Supportive Local Institutions

Local institutions are important bases for developing ecotourism that include the Lake Hayq fishermen and boat association. These associations are more influential in mobilizing local people towards ecotourism development than administrations. Despite this, it is difficult to say that there is ecotourism in Lake Hayq that the majority participate in to the solve problems faced by locals, although there is a positive initiative at Erikum Lodge. This newly established lodge is practicing ecotourism activities by involving a few locals in campfire settings, boat riding and cultural shows. The lodge in collaboration with all other stakeholders in the area is a good opportunity for developing a more diversified ecotourism activities.

Ecotourism Potentials of Lake Hayq

Lake Hayq has endowed with many natural and cultural resources suitable for nature and culture based ecotourism development. Numerous ecotourism resources have opportunity to be developed into ecotourism products. During observation, there was ecotourism potentials in and around Lake Hayq which can attract tourists and may contribute to conservation of natural and cultural if they are developed. Ecotourism minimizes environmental impact, has a minimum impact on and maximum respect for host cultures, and maximum economic benefits for host country's grassroots (Alemayehu, 2011). Ecotourism could be a link between protected areas and local communities through generating income for local communities while conservation goals of protected areas are also achieved. It could be very important where the ecosystem is fragile and other forms of natural resource management might be impossible.

Most respondents agreed that there are favorable conditions to start ecotourism development in Lake Hayq and its surroundings. Existence of multiple natural and cultural ecotourism potentials, the existence of suitable local institutions like boat and fishermen associations within the local community, existence of some private initiatives like Erikum and Logo Hayq lodge and ecotourism supportive policy are only some of the suitable aspects and conditions for developing ecotourism in Lake Hayq and its surroundings.

Natural Ecotourism Potentials in Lake Hayq

In order to assess ecotourism potentials of Lake Hayq, respondents from among local people were asked to rate their level of agreement or disagreement with a series of statements using a 5-point Likert scale. Table 6 showed results of responses for each of these statements ordered from the highest mean to the lowest mean. When the results are carefully examined, it is clear that the mean scores of all variables are above 4, which implies that overall responses spread between agree and strongly agree. It can also be observed that the difference between the mean scores is small, indicating broadly similar options about a diverse range of geographic features, flora and fauna suggested by tourism. The higher the mean score the stronger is the agreement.

Table 6: Natural Ecotourism potentials of Lake Hayq

Variables	F & %	SD	D	N	A	SD	Total	Mean
Lake Hayq has attractive lands	F	2	5	24	38	51	120	120
	%	1.6	4.1	19.7	31.1	41.8	100.0	4.09
Lake Hayq has a variety of flora and fauna species	F	0	7	43	43	27	120	120
	%	0	5.7	35.2	35.2	22.1	100.0	3.75
Lake Hayq and its marine areas are main ecotourism potentials	F	0	3	10	54	53	120	120
	%	0	2.5	8.2	44.3	43.4	100.0	4.31
Lake Hayq has conducive weather	F	0	14	13	46	47	120	120
	%	0	11.5	10.7	37.7	38.5	100.0	4.05

F=frequency, %=percentage, SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

Lake Hayq and Its Marine Area

Based on mean and standard deviation scores, it appeared that there was agreement to Lake Hayq and its marine areas are the main ecotourism potentials (mean=4.31). These results suggest that the lake and its marine areas are the major resource which may attract tourists. It is very attractive lake with clean water and surrounded by beautiful scenery. Artificial beaches can be made to magnify the beauty and its importance. Beaches are important for those who might want sunbathing and sporting activities. Thus, living standards of the society can be improved provided that available ecotourism potentials converted into actual tourism products.

Attractive Landscape of Lake Hayq

Lake Hayq has attractive landscapes (mean=4.09) that signified it has geographic features such as attractive mountains and gorges at the eastern side of the lake which has opportunities for recreational activities. The overall natural scenic beauty of Hayq is a major motivation for visitors to come there as researchers observed, especially if conservation measures have been applied to maintain cleanliness and natural character of environment. Attractive and interesting agricultural landscapes such as rolling green fields of farmers on opposite side of the lake and



terraced fields through natural rehabilitation projects have additional values. The landscape that extends to the inside part of the lake where the monastery is found is eye catching, coupled with irrigated land and terraced green areas. Scenic beauty may include pleasure driving with stops at scenic viewpoints, hiking, picnicking, camping, and wildlife viewing. Remote and peripheral areas may offer opportunities for adventure-oriented tourists engaging in activities like rock climbing and long distance trekking. The lake is found only 2km from the town and one can also take a walk across the beautiful rural road in a lush environment.

The major importance of the lake so far is as a source of livelihood for those who are engaged in fishery. There is high potential of having more fish in the lake and it was indicated the absence of the extensive use of this resource in scientific way is problematic. Hotels and other service giving establishments in Hayq are known for their fish meals and the lake is the sole source for the fish. Sport fishing and swimming are also potential aspects for future ecotourism development. Informal discussion with some foreign visitors remarked on the advantage of the lake in that it has no bilharzia that allows them to swim without any fear. They also suggested that youth can obtain employment opportunities through assisting tourists as life savers, while they are swimming.

Conductive Weather Conditions of Lake Hayq

Lake Hayq has conducive weather conditions for all types of visitors (mean=4.05), which indicated that it has a warm and sunny weather and is typically considered desirable by most tourists. Lake Hayq is the most appreciated area, especially by those coming from cold winter areas, and particularly when associated with other attractions such as beaches, marine life, and mountain areas that provide opportunities for recreation activities. Certain kinds of health resorts can also be developed to attract many tourists from Western, Europe, Asian countries. Weather conditions in Hayq is also favorable as it has long climatically desirable season.

Flora and Fauna Species of Lake Hayq

Lake Hayq has a variety of flora and fauna species (mean=3.75) that are considered to be valuable resources for ecotourism development. Unusual and interesting flora and fauna can be very important attractions, especially when combined with scenic landscapes. Old native trees found on mountains around the lake, especially trees in the monastery area are potential for both general sight-seeing and special interest tourists. The lake is the home for local and migratory birds, monkey, apes, hyena and jackals which can equally attract interested visitors for a variety of reasons.

Lake Hayq offers quite four types of fish species such as Tilapia, Carp, Catfish & Garra (Seid, 2016), and different birdlife viewing and spectacular scenery. Even though some natural resources mentioned above are major ecotourism resources for the existing market, they can also be taken as potential ecotourism resources since their delivery do not result in direct generation of resources and their indirect benefit is not also to the expected level. They are considered as potential resources since they carry much potential for the future if they are managed and developed in sustainable and profitable way. Table 7 presented cultural and social ecotourism resources in and around Lake Hayq, of the four items relating to the tangible and intangible cultural resources of ecotourism development.

Table 7: Socio-cultural ecotourism potentials

Variables	F & %	SD	D	A	N	SA	Total	Mean
There is church museum with many collection	F	-	-	5	51	64	120	120
	%	-	-	4.1	41.8	52.5	100.0	4.49
There is communities traditional conflict resolution system	F	-	-	7	51	62	120	120
	%	-	-	5.7	41.8	50.8	100.0	4.46
There is annually colorful religious celebration	F	-	-	4	62	54	120	120
	%	-	-	3.3	50.8	44.3	100.0	4.42
Lake Hayq is home for Bête Denagil and St Istifanos Monastery	F	-	-	3	53	66	120	120
	%	-	-	2.5	41.8	54.1	100.0	4.53

F=frequency, %=percentage, SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

Religious Sites of Lake Hayq

Lake Hayq is home for St Istifanos, Bête Denagil Monastery and other religious sites (mean=4.53) that confirmed the area has additional natural, cultural and historical ecotourism resources. During observation and key informant interviews, the monastery which is 2.7km far from the town is the most attractive and has high potential as a resource. Passing through many natural and manmade historical disasters, the church was built during King Dil Nead (862 E.C.) and has many resources that display religion and lifestyle of the then time. This monastery contains parchment books, coronation dress and crowns of different kings, and other resources which are organized in the museum and they will hopefully attract many tourists in future. Females are not allowed to enter, but there is also another church on the western side of St Istifanos monastery which is called Bete Denagil which was built during Yekuno Amlak. It is here where nuns and monks are organized and work on weaving, bee-hiving, vegetable and crop production, fruit production and environmental activities which are also potentially able to attract tourists.

There are also other churches within an accessible radius from the town, like Debre Egziabher which is 15km away where we find Yimamo where the ancient church monument was built by King Dilnead. Another church is at Debre Hirit Kilensa Mariam some 17km away which is located in naturally sculptured hills covered by native trees. There are also different eye-catching historical and religious resources which can be developed in a way that they can generate revenue. During observation and key informant interviews, kerenofa mosque was also considered to be another tourist attraction site located at the center of Hayq town. Kerenofa mosque is believed to be the most beautiful and largest mosque in the entire zone. Based on interviewees, the majority of communities are followers of the Islamic religion. The mosque possesses architectural beauty, and also has religious value for Muslims and others who are interested in architecture, culture and history. During observations and stakeholders' interviews, it transpired that there are historical and cultural sites and monuments including religious buildings such as churches, mosques, and monasteries, places of historic event such as Wuchale and Yisma Negus at 25km from the town and others which are all potential attractions.

There is a church museum and different collections around St Istifanos monastery are found here (mean=4.49). Results suggested that the museum and its collection is one of the main tourist attraction sites on the shore of Lake Hayq. Observation proved that the museum has many ancient parchment books, crosses, pictures, and other items of substantial value and with a tourism potential.



Traditional Dispute Resolution System

There is an attractive local community traditional Dispute Resolution System in Hayq town and its surrounding (mean=4.46). Results revealed that there are many cultural practices like Abegar in which people quarrelling for any reason are brought to a discussion by local elders and they then reach an agreement. Visitors may also be interested by how harmonious local people are, even though they can be from different religious backgrounds. The study area also possesses other cultural patterns including customs, beautiful dressing style, ceremonies, lifestyles, religious beliefs and practices are often associated with rural and village life. These and other cultural patterns can be used to generate revenue if they are displayed by organizing events and other cultural displaying festivals. Hayq town is where many Ethiopian musicians have originated from and where Bati, Ambasel and Anchihoeye are found.

Arts and Handcrafts of Lake Hayq

Local communities benefited from ecotourism by selling handcrafts for tourists (mean=4.09). There is a market where local potters and artisans sell their products, weaving and basketry that can be used in ecotourism as additional potential to attract more tourists. Interviews with the Hayq town trade and transport office head disclosed that the monastery community members are organized in a union and produce and sell different traditional tourism products to local markets and have a shop in front of the monastery. These tourism products can be sold around the lake for tourists if they are prepared well and based on a carefully considered marketing approach. During observation and key informant interviews, performing art forms including traditional dance, music, traditional games, and fine art and painting were found in the monastery and also sculptures on the side of the lake near the monastery – each of these can be important attractions.

Challenges of Ecotourism Development in Lake Hayq

This section discussed some reoccurring challenges which were identified as socio-economic and environmental challenges for ecotourism development. Most problems of local people emanated from socio-economic conditions and contributed to increased poverty and consequently can affect natural and cultural ecotourism resources. Table 8 below, shows respondents opinions on conservation of natural and cultural resources in Lake Hayq (90.2%, 92.6%, 95.0%, 97.6%, 91.8%, 94.3%, 84.2%, 86.0%) agreed that infrastructure, environmental pollution, agricultural encroachment, overconsumption of resources, lack of skilled manpower, poor cooperation of stakeholders, lack of promotion and marketing and absence of ecotourism development policies respectively.

Table 8: Challenges of ecotourism in Lake Hayq gathered from research participants

Variables	F & %	SD	D	N	A	SD	Total	Mean
There is lack of infrastructure	Frequency	1	7	2	45	65	120	120
	%	.8	5.7	1.6	36.9	53.3	100.0	4.38
Environmental pollution	F	0	3	4	43	70	120	120
	%	0	2.5	3.3	35.2	57.4	100.0	4.50
Agricultural encroachment	F	0	3	1	48	68	120	120
	%	0	2.5	.8	39.3	55.7	100.0	4.51
There is unsustainable use of resources	F	0	1	0	39	80	120	120
	%	0	.8	0	32.0	65.6	100.0	4.65
Lack of skilled manpower	F	1	7	0	59	53	120	120



	%	.8	5.7	0	48.4	43.4	100.0	4.30
Lack of cooperation among stakeholders	F	0	5	0	41	74	120	120
	%	0	4.1		33.6	60.7	100.0	4.53
Lack of promotion and marketing	F	1	2	16	66	35	120	120
	%	.8	1.7	13.3	55.0	29.2	100.0	4.10
Absence of ecotourism developmental policy	F	1	6	8	58	47	120	120
	%	.8	4.9	6.6	47.5	38.5	100.	4.20

F=frequency, %=percentage, SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

Lack of Infrastructure

There is lack of infrastructures, such as suitable roads, poor accommodation services, inadequate potable water and poor electricity supply in Hayq town. Most respondents (90.2%) agreed that tourism facilities and the overall infrastructure in Lake Hayq and its surrounding are very limited. There are attractive campsites/lodges located at western side of the Lake, but they do not offer standardized tourist services because of the above mentioned and other infrastructure challenges.

Agricultural Encroachment

As indicated in table 8 above, most respondents (mean=4.51) agreed that the lake is in deteriorating condition due to agricultural pressure. Key informant discussants indicated that there are some emerging challenges for Lake Hayq and its surrounding areas. Expansion of agricultural development has created pressure on the shoreline, expansion of farm lands and deforestation on the shoreline that have caused soil erosion and flooding in the lake, which has ended up in soil sedimentation aggravating the decline in water depth. All survey respondents and key informants agreed that they have observed significant declines in the water level. Key informant interview recommended that development of ecotourism primarily demands the involvement of local people so as to support biodiversity conservation due to the participation of local communities as one of the characteristics of ecotourism. Interview discussants raised the issue of local involvement as a very important aspect of ecotourism development in Lake Hayq but they indicated that a big challenge might be how to involve local communities.

Lack of Skilled Manpower

Most interview discussants and respondents (mean=4.30) acknowledged that there is a big gap in skilled manpower within tourism officials, local community, government administrative bodies, especially in the area of ecotourism. There is no ecotourism expert or consultant who is in charge of ecotourism or community based ecotourism activities. Although local tourism offices of Hayq town administration have some initiatives for mobilizing the local youth as local guides for visitations outside the lake, they are doing this without adequate training. Field observation also checked that there is overconsumption or unsustainable use of resources of the lake and its surroundings. Local people living around Lake Hayq depend on the natural resources of the lake for their livelihoods and in many ways that may pose a severe challenge.

Lack of Cooperation amongst Stakeholders

The majority of the respondents (mean=4.53) agreed that the main stakeholders of ecotourism development in the study area are local government and local community members who are involved in the tourism sector. Tourism business were also found to lack cooperation. Interviewees also added that there is loose collaboration and communication among the three major stakeholders of Lake Hayq. Open forums and dialogues were not created within the Hayq town administration, between local representatives, and Hayq town culture and tourism office. Key informant interview also indicated that there needs to be an assembly of key stakeholders including others so as to face the complicated challenges encountered at Lake Hayq.

Thus, the big challenge to develop ecotourism is that there is no platform created to mobilize and initiate stakeholders for ecotourism development in the area. The framework of participation is not well designed, private sector involvement is low, regional bureaus have a kind of campaign participation and there is a lack of formal relationship among stakeholders. This gap demands there be an initiative to have a stakeholder participation analysis for identified stakeholders and create an opportunity or a forum for them to air their views and identify remedies.

Lack of Ecotourism Development Policy

Most respondents (mean=4.20) agreed that there is lack of clear ecotourism development policy and land degradation on tourism resources due to agricultural and negative community attitudes towards tourism and many community conflicts on resource ownership. Ethiopian tourism development policy, emanating from 2009 is too general, lacks implementation strategies and doesn't give due attention to ecotourism. It emphasized the broad based developmental frameworks, development of the existing and new tourism attractions and products, expanding the infrastructure and tourist services that are vital for the growth of the sector, ensuring that the country benefits from the sector by being sufficiently competitive in the international tourism market. It also sought to solve the serious limitations in capacity which are apparent in general, and no community-based tourism guidelines and strategy were established (Alemayehu, 2011).

Environmental Pollution and Overconsumption

Most of the respondents (mean=4.50) agreed that the lake water is polluted through waste from the surrounding lodges and villages. During observations and key informant interviews, it was evident that the polluted lake water causes fish production to decline.

The majority of the respondents (mean=4.65) agreed that there is an overconsumption of resources like overfishing, and the local communities also use the lake water for irrigation and for their livestock unwisely. Absence of conservation and sustainable utilization of resources prohibit ecotourism development and its various contributions for local communities (Dejene, Seyoum, & Ready, 2014).

Lack of Promotion and Marketing

Most respondents (mean=4.10) agreed that there is lack of promotion and marketing for the study area. Despite the fact that the lake has both natural and cultural tourism resources, they could not be able to be accessible to the public due to several reasons, such as lack of promotion and marketing. For instance, the study area does not have its own website that can help to promote



its resources. There was no promotion of tourism resources either through printing or electronic media due to lack of financing and trained manpower. There is no single billboard on the way to the lake and the monastery, or in the nearby town of Hayq which can indicate the direction where the lake and monastery are located. Then, innumerable and priceless ecotourism resources of the study area thus become inaccessible for domestic and international markets.

To conclude, Lake Hayq and its surroundings have tremendous potential and opportunities that can be easily employed for ecotourism development. However, the available ecotourism development potentials and opportunities were not fully utilized due to the constraints of various challenges that call for the due attention of all relevant stakeholders in order to support the development endeavors of Ethiopia.

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